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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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6776

7590

12/12/2005

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EXAMINER

LE, DINH THANH

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/518,649

Applicant(s)

MORCHE, DOMINIQUE

Examiner

DINH T. LE

Art Unit

2816



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/26/05</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to in that all boxes, i.e., boxes (1-3) in Figure 1, should be labeled as their functions. Correction is required.

### ***Specification***

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

## **CLAIM REJECTIONS**

### ***Claim Rejections - 35 USC § 112***

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate correction or clarification is required.

In claim 1, the recitation “the output” on line 2, “the input” on line 3, and “the rate” on line 6 lacks clear antecedent basis. The recitation “an output” on line 4 is confusing because it is unclear if this is additional “output” or further recitation of the previously claimed “output” on line 2. It is not understood how the locked loop can be “characterised” on line 4, how the control means can modify the output from the delay cells, what the rate of the clock signal is, where the clock signal and control information come from and how the clock signal can be “stimulated” by the information. The description of the present invention is incomplete because the “control

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means” is not connected to anything. Thus, the claimed control means may not perform the recited function. The same is true for reciting “means” on line 1 of claim 10

In claim 2, it is unclear what the “one different cell output” is and how it is seen on the drawings.

In claim 4, it is unclear what the “rank i delay cell  $R_i$ ” on line 5 is how the recitation “first set of switches” and “second set of switches” on line 2 is read on the preferred embodiment. Insofar as understood, no such switches are seen on the drawings. The recitation “the rank i delay cell  $R_i$ ” and the assembly” on line 5 lacks clear antecedent basis. The same is true for reciting “the different delay cells” and “the total number” on line 2 of claim 5, and “the rank n-1 delay line” and “the rank n delay line “ on line 3 of claim 7.

In claim 5, the recitation “switches” on line 1 is confusing because it is unclear if this is additional “switches” or further recitation “switches” on line 2 of claim 4. The same is true for reciting “delay cells” on line 2 of claim 10 and “loop latching phase” on line 3 of claim 11. It is unclear what the different delay cells are and how the loads and the switches on line 1 is read on the preferred embodiment or seen on the drawings.

In claim 6, it is unclear what the “digital control circuit” is and how on which the control signal can be output by the modulator and how the digital control circuit is read on the preferred embodiment or seen on the drawings.

In claim 7, it is unclear what the “p” and “q” are since they are not clearly defined in the claim.

In claim 8, it is not understood how the clock signal can be “identical” to a signal on line 2 except for a delay.

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In claim 9, the recitation "the signal" on line 2 lacks clear antecedent basis.

In claim 10, it is not understood what the "loop latching phase" is.

In claim 12, the recitation "the selected number" lacks clear antecedent basis and it is not understood how the selected number can be "memorized".

The remaining claims are dependent from the above rejected claims and therefore also considered indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 8-9 are rejected under 35 USC 102 (e) as being anticipated by Martin (US 6,526,374).

As the best construed, martin disclose in Figures 2-6 a DLL circuit comprising:

- a delay lines (216a-216c);
- a phase detector (202) having a second input being connected to the output of the delay lines (216a-216b); and
- a control means (214, 216) having a multiplexer (214) coupled to modify the delay lines (216a-216c) at a rate of a clock signal ((CKL, Figure 6) when stimulated by control information (FIX, ADV, Figure 6).

***Allowable Subject Matter***

Claims 3-7 and 10-12 would be allowable if rewritten to overcome the rejections under 35 USC 112 set forth in this office action and to include all of the limitations of the base claim and any intervening claims.

The claims are allowed because the prior art of record does not suggest the sigma-delta modulator as combined in claim 3, the sets of switches as combined in claim 4, the control information being a fractional value  $p/q$  as combined in claim 7, and the means as combined in claim 10.

#### **CONCLUSION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8 December 2005

  
DINH T. LE  
PRIMARY EXAMINER